

## *Social Development in Children with Specific Language Impairment and Profound Hearing Loss*

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### **Steven's Story**

Steven is a 6-year-old boy. He lives in a middle-class home with his parents and two older siblings. Shortly after he was born, neonatal hearing screening suggested Steven was at-risk. Subsequent testing confirmed he had a bilateral, profound hearing loss. Steven was fit with hearing aids when he was 6 months old, and has worn aids ever since. Steven's mother enrolled in an early intervention program soon after the diagnosis was made. This program stressed total communication (signing combined with spoken language). Steven's mother began to learn sign language, but this proved more difficult for the rest of the family. Steven met developmental milestones as expected with the exception of delayed communication skills. Although Steven learned signs quickly (he produced his first signs at 10 months), his spoken language developed much more slowly. Last year when he began kindergarten, psychological testing revealed that Steven's nonverbal IQ was within normal limits.

With his hearing aids, Steven can hear loud environmental noises and can tell if people around him are talking. He cannot discriminate speech well, however. Steven attends a first-grade classroom that contains both hearing children and children with hearing impairment. The class stresses total communication.

Steven communicates fairly well with his mother using a combination of signs, gestures, and some spoken language. Since his speech production is largely unintelligible, he communicates with other family members using gestures and facial expressions. He sometimes plays games such as basketball and chase with his older siblings and neighborhood children, but they tend to exclude him from many activities. At school, Steven has two recip-

rocal friends in his class, both of whom also have hearing impairment. At recess and lunch, Steven tends to congregate with other children who have hearing impairment. He prefers interacting in dyads rather than in groups of peers.

## **David's Story**

David is a 6-year-old boy. He lives in a middle-class family with his parents and two older siblings. David's parents reported that his developmental history was quite typical except for the fact he did not learn to talk as expected. David did not produce his first word until he was 20 months old, and then learned new words slowly. He did not seem to understand when his parents gave him verbal directions. By the time he was 3 years old, his parents were concerned that he might not be able to hear, so they arranged for an audiological evaluation. All hearing measures were within normal limits, and David's parents pursued additional psychological and language evaluation. Testing indicated David's nonverbal IQ score was within age-level expectations, but language measures revealed delays of 2 or more years in his ability to produce and understand spoken language. David was enrolled in a special preschool at age 4.

David's parents find it difficult to communicate with him. They tend to ask him series of questions, which he does not always answer. David sometimes plays games or rides bikes with his siblings and the neighborhood children, but he is rarely invited to anyone's house to play and does not have any close friends.

David attends a regular first-grade class. A speech-language pathologist and a resource teacher come into his classroom twice a week to work with him in a small group on reading and math. David has difficulty following directions in class, responding to questions, and joining in class discussions.

As is the case in his neighborhood, David has no reciprocal friends in his class. At recess, he tends to wander around unoccupied or to drift from one playgroup to another. He is usually one of the last to be chosen for class teams. When he is grouped with other children for class assignments, he tends to watch others work rather than participate.

## **Language and Social Competence**

Steven and David share a common challenge; they both have difficulty using language to communicate effectively within their communities. Because of the close relationship between language and social behavior, it is likely that any disability affecting one may impact the other. For Steven and David, there is a high probability that their language problems will have social ramifications. It is not the case, however, that there is a simple causal relationship between language impairment and social deficits. That is, it cannot be assumed that language difficulties always lead to social problems in a predictable fashion. Rather, language and social development are intertwined in complex ways. To understand the social challenges and needs of children with language problems, it is first necessary to

consider the nature of specific language deficits and how they impact a child's social interactions. For example, Steven and David both have disabilities that undermine their ability to acquire and use spoken language. Both children also have difficulty interacting with their classmates. Although these observable outcomes are similar, the nature of each child's disability is unique. Steven has a sensory deficit that makes much of the spoken language that surrounds him inaccessible. He is unable to use the mode of communication used by his parents, family, and most of his community. It is important to note, however, that Steven seems to be able to acquire language much more readily if it is made accessible to him through the visual modality. He learns signs quickly when he is exposed to them in interaction. It is fair to speculate that if Steven had been born into a family fluent in American Sign Language (ASL), he would have acquired ASL as expected and would now communicate freely within a signing community. David, on the other hand, has an auditory system that is intact; he can hear the language around him without difficulty. He cannot process all of the language he hears, however. David frequently does not comprehend enough of the words and syntactic structures that he hears to appreciate the speaker's intent. He struggles to formulate and produce sentences; his production is labored, difficult, and immature. David's language impairment would be evident in almost all environments where language production and comprehension are important (e.g., the classroom).

In this chapter, we discuss two groups of children who demonstrate language problems; those with profound hearing loss (such as Steven) and those with specific language impairment (SLI) (such as David). For both we consider how language impairment has the potential to disrupt social interaction with lasting consequences for affected children and their families. As a part of each discussion we review the nature of parent-child interactions and educational contexts. Both are of basic importance to social outcomes and must be taken into account as we discuss the social competence of these groups of children.

## **Profound Hearing Loss**

### *Overview*

There are many degrees and types of hearing loss. The term "profound hearing loss" is used to describe a loss exceeding 70 dB HL (Northern & Downs, 1991). Some classification systems are more stringent, however, and specify a loss exceeding 90 dB (Clark, 1981). Unless indicated otherwise, a profound loss is assumed to be bilateral. The term "deaf" is sometimes used in reference to children with hearing loss so profound that it is impossible to rely on hearing in order to acquire language (Diefendorf, 1996). A profound loss may be present at birth (congenital) or may be acquired. Some types of profound loss are progressive and become more pronounced over time. Dependable prevalence data are difficult to obtain, however, it is often reported that approximately one child in a thousand is born with a profound hearing loss. Data from several large prevalence studies indicate the actual figure is somewhat lower (Mauk & Behrens, 1993).

Profound hearing loss stems from involvement of the inner ear or a combination of inner ear and middle ear pathologies. Many causal agents can result in profound hearing

loss. For example, certain bacterial and viral diseases can attack the hearing mechanism. A number of drugs are ototoxic, and their use can cause irreversible damage to the inner ear. Some congenital syndromes involve malformations of the middle and/or inner ear, which may result in profound hearing loss.

Arnos, Israel, Devnos, and Wilson (1996) note that over half of profound hearing losses are genetic in origin. That does not mean, however, that over half of the children with profound loss are born to parents who also have profound loss. In fact, over 90% of children with profound hearing loss have hearing parents (Northcott, 1981). Congenital profound hearing loss is usually permanent, although recent developments in both cochlear and brainstem implants offer exciting possibilities for treatment. Cochlear implants have enhanced the sensory systems of many children but these implants are not usually recommended for children under 1 year of age. As of this writing, brainstem implants have not yet been approved by the FDA for children under 12 years of age.

As Steven's case illustrates, the fact that children with profound hearing loss do not learn to produce or comprehend spoken language easily does not mean they cannot acquire language at all. Children with profound hearing loss who are born to deaf parents may grow up in a deaf culture rich with a language (ASL) that is accessible to them. Just as importantly, these children belong to a deaf community that does not view profound hearing loss as a disability but as a cultural characteristic. From this perspective, Steven has a "handicap" only in the context of his hearing community and the value that community places upon typical hearing. Although his current social world is largely composed of hearing individuals who must make accommodations for his hearing loss, Steven may one day affiliate with a deaf community where his hearing loss does not single him out as different or present a barrier to interpersonal interaction, acceptance, or belonging (Maxwell, Poepplmeyer, & Polich, 1999). At age 6, however, Steven lives primarily in a hearing world. His spoken language skills are limited, and his difficulty communicating is associated with social challenges.

### *Early parent-child interactions*

It is important to qualify comments on parent-child interactions by recognizing that some children with profound hearing loss have associated disabilities that significantly impact development. These problems cannot help but influence parent-child interaction. For purposes of this discussion, we focus on those children with profound hearing loss who have relatively typical intellectual and physical abilities.

Regardless of the cause of their profound hearing loss, children who are born to hearing parents are basically cut off from the primary medium of communication utilized by their families – spoken language. Even with amplification these children are usually unable to hear well enough to differentiate different speech sounds (although children with cochlear implants may do better in this regard than children with traditional hearing aids). Thus, even for those children like Steven whose hearing loss is not complicated by other factors, the communicative and social environment they experience from birth is qualitatively different compared with that of hearing children. Early parent-child interactions may differ, especially if the hearing loss has not been identified. Parents may interpret their child's

failure to react to spoken input as nonresponsive and may alter or reduce their interaction with their child (Marschark, 1993). An infant with a profound hearing loss cannot hear her mother when out of view and cannot anticipate her return unless the mother provides tactile or visual cues (Manfredi, 1993). The nature of early social interactions may differ because these children do not engage in vocal play in the same way as hearing infants (Manfredi, 1993). Early social interactions between hearing parents and children with profound hearing loss depend on parents' ability to establish reciprocal interactions with their infants. On a basic level, parents of children who cannot hear spoken input must present compelling visual input in order to engage their infants' attention to their communicative message (Lederberg, 1993). At the same time, parents must carefully gear their input to their children's needs. For example, too much physical input may overwhelm an infant and interfere with the ability to learn from the interaction (MacTurk, Meadow-Orlans, Koester, & Spencer, 1993). It is not always a simple matter for parents to find a medium of communication that they can share with their children. This medium may involve a level of facial expression, gesture, or sign that may not be altogether comfortable for hearing parents. This complicates social-play exchanges that might otherwise occur naturally and spontaneously.

### *Education*

As infants with profound hearing loss develop, their social interactions are influenced by the communication they share with their families and peers. In turn, their communication systems are, to a large extent, determined by their educational experience. In the past, educational approaches for children with hearing loss were the subject of intense and extended controversy. Proponents of oral approaches advocated educating children to enable them to function in a hearing world by relying on residual hearing, speech reading, and speaking. Proponents of manual approaches felt that spoken language competence was an unrealistic goal and stressed signing systems. Total communication approaches that included both signing and spoken language were viewed by some as a compromise, but the controversy lived on. To complicate matters, there were several different signing systems used in educating children with profound loss. ASL is a language with its own syntax and vocabulary, but several other signing systems mix ASL signs with English syntax and usage (see Bernstein-Ratner, 2001, for a brief overview).

In recent years, increasing emphasis has been placed on early intervention to provide children with profound hearing loss with the opportunity to develop a rich language system to permit the communication necessary to develop and maintain personal relationships as well as to learn academic content (Northern & Downs, 1991). For children with profound loss, some type of signing system is often indicated. This means, of course, that hearing parents and family have the best chance of communicating their child with profound loss if they are familiar with the signing system the child uses. As in Steven's family, this is not always the case.

### *Social competence*

The research on the social competence of children with profound hearing loss has been complicated by a myriad of factors that influence social development. For example, children with profound hearing loss demonstrate varying levels of language development, a wide range of communicative opportunities within the home, and different opportunities to interact with peers who share the same language system. These variables have not been systematically controlled across research studies, and research outcomes must be evaluated with these factors in mind.

Spencer and Deyo (1993) suggested that there are at least two groups of children with profound hearing loss (deaf) who could be expected to show distinct patterns of social development. These groups consist of (a) children who develop language typically and have typical early parent–child interactions and (b) children who have difficulty acquiring language and have “difficult, relatively nonreciprocal interactions with parents” (Spencer & Deyo, 1993, p. 71). These authors noted that these groups are usually, but not always, configured based on the hearing status of the parents. Spencer and Deyo summarized a number of studies that suggested that deaf children born to deaf parents “tend as a group to have more positive socioemotional characteristics, better language development, and higher academic performance than deaf children with hearing parents” (p. 70).

Additional research is needed to confirm the existence and describe the development of different groups of children with profound hearing loss. More longitudinal studies are needed to compare the social development and friendship formation of children of deaf parents with those of children with hearing parents. We do not yet fully understand the relative influence of many important factors on social competence. We do, however, understand that children with profound hearing loss experience certain challenges in social interactions.

The fact that children with profound loss often use some system of signing to communicate means that their mode of communication will differ from that of many of their peers. This may, in part, explain the fact that children with hearing loss are not easily integrated into the social fabric of the regular classroom. As Lee and Antia (1992) note, ensuring physical proximity among children with hearing loss and their hearing peers does not guarantee that these children will interact. In fact, providing casual contact is not sufficient to foster acceptance or friendship (Antia & Kreimeyer, 1996). In integrated classrooms, children with hearing loss tend to segregate themselves and hearing children often avoid them (Bench, 1992; Minett, Clark & Wilson, 1994; Spencer, Koester, & Meadow-Orlans, 1994).

Children with hearing loss in integrated settings tend to be rejected by their peers more often than are hearing children. For example, Cappelli, Daniels, Durieux-Smith, McGrath, and Neuss (1995) found that 30% of the elementary school aged children with hearing loss they studied were rejected by their peers. Additionally, these children were aware of their rejection.

Loeb and Sarigiani (1986) studied children and adolescents with hearing loss and compared them to hearing peers as well as to peers with visual impairments. Teachers perceived the students with hearing loss as being more shy and having lower self-esteem than the

other groups, and the students with hearing loss perceived themselves as more shy and less popular. Not all studies using teacher report have demonstrated social or behavioral difficulties in children with hearing loss, however (MacLean, 1983). Still, parents often complain of the difficulty their children with hearing loss experience in interacting with others and establishing friendships (Davis, Elfenbein, Schum, & Bentler, 1986).

Even though children with profound hearing loss are not always accepted or included in classroom activities in integrated or mainstreamed settings, in the long run, these children may function better socially than do children with hearing loss who are educated in isolated or institutional settings. For example, Aplin (1987) found that 12-year-old children with hearing loss who attended regular schools showed better levels of social and emotional adjustment than did their peers who attended special schools. Similarly Cartledge, Cochran, and Paul (1996) reported that adolescents who attended regular schools rated their own social competence higher than did peers in a residential school setting.

Language proficiency is extremely important to peer interaction. Children with profound hearing loss who have more developed language systems tend to interact more often with peers than do children with more limited language ability (Spencer, Koester, & Meadow-Orlans, 1994). There are indications that language proficiency is related to the mode of language to which children are exposed. That is, children with profound hearing loss who communicate using at least some signing may acquire language more easily than those who must depend only on spoken language. This greater facility with language can also promote positive social interaction. For example, Cornelius and Hornett (1990) reported that kindergartners with hearing loss in classes where instruction included signs and spoken instruction engaged in more social play and produced fewer physically aggressive acts toward each other than did children in oral classes, where instruction was carried out primarily through spoken language.

The contexts in which children interact present different language demands for children with profound hearing loss. For example, Lederberg (1991, 1993) noted that children with profound loss may participate in dyadic play using limited language, but they have difficulty in groups because group play demands a higher level of language ability. Difficulty interacting in groups may persist throughout life. Adults with hearing loss have also reported that they are uncomfortable talking with groups of hearing peers because of the increased demands of watching multiple speakers in order to utilize visual cues (Maxwell et al., 1999).

As important as language ability is to social interaction, it is not the only factor that determines social functioning in children with profound hearing loss. For example, children form peer relationships based on many factors. To illustrate, Lederberg (1991) observed 3- to 5-year-old children with hearing loss in outdoor play at school. Forty-two percent of children in dyads who formed long-term friendships (identified according to mutual responsiveness and time spent playing together) had different levels of language ability. Children seemed to choose each other as playmates according to factors such as gender and age. Drawing from this study and earlier work, Lederberg (1991) concluded that "linguistic competence was found to affect only a very narrow area of deaf children's peer relations" (p. 58).

*Summary: Profound hearing loss*

It is difficult to generalize about the social functioning of children with profound hearing loss. Unfortunately, research has not fully described the social expectations and developmental patterns of children within deaf or hearing communities. Although it is obvious that hearing loss can affect language and social growth, it is less clear how hearing loss interacts with other factors to influence the development of individual children. The early social environment of a child with hearing loss depends on the parents' ability to engage that child's attention and provide highly salient language and social input that the child can process. Parents who sign fluently may find this a natural task, but hearing parents may be more dependent upon early intervention programs to assist them. The choice of communication modality (signing, speech, or a combination) that families adopt is another factor that influences social development. Children in families and educational programs that incorporate signing may develop language more readily. Enhanced language development is one important factor that facilitates interaction with peers.

Children with profound hearing loss who grow up in hearing communities are at risk for social isolation. Children born to parents who belong to a deaf community may grow up in a signing environment that values hearing loss as a cultural characteristic. These children may function well socially within their minority community, but may never feel quite "at home" in the hearing world. Some children, especially those who do not learn sign language and acquire limited spoken language, may never feel totally included in either the deaf or the hearing world.

## **Specific Language Impairment**

### *Overview*

In the case description presented earlier, David did not acquire language typically despite the fact that his hearing was intact. In addition, David's difficulty with language could not be attributed to more generalized cognitive deficits, obvious neurological problems, or environmental deprivation. The term "specific language impairment" (SLI) is currently used to describe David's difficulty (Leonard, 1998). A number of other terms overlap partially or completely with SLI, including learning disability, developmental language disability, developmental language disorder, and language-learning impairment (Nelson, 1998). Although the term SLI suggests a specific disability, children who are identified with SLI form a heterogeneous group. Two individuals diagnosed with SLI may have very different profiles of linguistic strengths and weaknesses. Despite this variability, it can be said that children with SLI demonstrate a variety of problems with comprehension and expression of language. These may include difficulty learning vocabulary, syntax, and morphological structures. Additionally, children with SLI may struggle in social conversation and most have difficulty producing and understanding narratives. Children with SLI tend to produce spoken language that is limited, labored, and immature. SLI persists as

children grow up, although the manifestations of the disorder change (Bashir, 1989). For example, a 4 year old with SLI might produce short utterances with various grammatical structures missing or modified (e.g., “Him baby. Him not eat candy”). At 12 years of age, that same child might have a command of basic syntax and morphology but might struggle producing a fluent narrative that is coherent enough to describe a simple event. As might be expected, difficulty with language translates into social and academic problems that are particularly evident in tasks involving listening, speaking, reading, and writing (Fey, Catts, & Larrivee, 1995).

SLI is a relatively common disability. Tomblin et al. (1997), using strict diagnostic standards, found a prevalence rate of 7% in a sample of over 7,000 kindergartners. SLI is more prevalent in boys than in girls, and recent study has focused on familial aggregations of SLI. The cause of SLI is not well understood. There has been a great deal of discussion regarding etiology, but a definitive explanation of causal factors remains elusive (see Bishop, 1997; Leonard, 1998 for discussion).

Unlike children with profound hearing loss, there is no context in which children with SLI will find both a viable alternative to spoken language and membership in a cultural community that does not view language impairment as handicapping. A child with profound hearing loss who is fluent in ASL may interact freely with other members of the deaf culture. For a child with SLI growing up in a society that values verbal ability, there is no equivalent community.

### *Parent–child interactions*

Thanks to recent advances in audiological assessment procedures, Steven’s hearing loss was identified in his infancy, and his parents were referred to an early intervention program. David’s SLI was not identified until he was a preschooler. Unfortunately, the most obvious manifestations of SLI are not evident until children reach the age where they would be expected to start talking. This makes SLI difficult, if not impossible, to identify in infancy. Since there is considerable variation in the times at which typical children reach language milestones, it can be difficult to distinguish children who are normal “late talkers” from children who have language impairment in the early stages of acquisition (for discussion see Leonard, 1998; Paul, 2000). It might be speculated that children with SLI, like children with hearing loss, experience early interactions with their caretakers somewhat differently than do typically developing children. Just how different the experience is from the child’s perspective, however, is not clear. Infants with SLI can hear the sounds that inform them of the caretaker’s presence when not in sight. Likewise, they have access to vocal and sound play input from their parents. As they mature, however, they may have difficulty making sense of the language they hear, and they are slow at acquiring the lexical and syntactic characteristics of language.

As children with SLI become preschoolers, the interactions they have with their caretakers may differ from those experienced by typical children. Although most research has focused on the influence of parental input on the acquisition of language structure, some studies have addressed the social nature of parent–child interactions. The results of this research are equivocal. It is evident, however, that many parents modify their input in

order to communicate with their children who are less skilled conversational partners (see Leonard, 1998 for review). It is likely that these modifications shape parent-child social interactions in important ways that are not yet fully understood.

### *Education*

As previously noted, children with SLI can be expected to have academic problems. One reason for this is that these children are at a great disadvantage in the classroom where rules, routines, and instruction are largely carried out via language. A number of special service delivery models have been employed to support these children in academic work and to facilitate their language growth. Some children with SLI are placed in small, self-contained classrooms for children with language problems. These classrooms are generally located within regular elementary schools, and the children with SLI may share recess time or specific classes with typically developing children. Other children with SLI attend regular classrooms and are pulled out periodically for small group or individual sessions with a speech-language pathologist and/or learning specialist. Some children, like David, attend regular classrooms, and speech-language pathologists and other special service providers team with the classroom teacher to provide services within the curriculum of the classroom. For a child with SLI, opportunities for social interaction with peers may vary greatly depending on educational placement.

Little work has been done to compare the social behaviors of children with SLI in various types of school placements. It can be said, however, that children with SLI frequently have social difficulty in school settings. The work of researchers who have described the social problems of these children is reviewed in the next section.

### *Social competence*

Since language skills are often critical to successful social interaction, it might be expected that children with SLI would be at risk for social difficulty. Investigations conducted over the past decade suggest that the most common manifestations of social difficulty in elementary school children with SLI are withdrawal and weak sociable behaviors. For example, Fujiki, Brinton, and Todd (1996) found that teachers rated 8- to 12-year-old children with SLI as having more behavior problems and poorer social skills than their typically developing peers using the teacher version of the *Social Skills Ratings System* (Gresham & Elliott, 1990). Although specific item analyses were not conducted, it was noted that the main behavioral differences were evident in subscales assessing hyperactivity and internalizing behaviors, and differences in social skills were evident in subscales assessing cooperation and assertion.

Redmond and Rice (1998) employed the *Child Behavior Checklist* (Achenbach, 1991a) and the *Teacher Report Form* (Achenbach, 1991b) to measure parent and teacher perceptions of the social functioning of children with SLI and typically developing peers when they were 6 and 7 years of age. Teachers rated children with SLI as having more social, internalizing, and attention problems than their typical peers. Parent reports for children

with SLI and typically developing children did not differ. That is, teachers reported social difficulties at school that parents evidently did not perceive at home. It was also of note that the teacher ratings for individual children were not stable over time.

Fujiki, Brinton, Morgan, and Hart (1999) used the *Teacher Behavior Rating Scale* (Hart & Robinson, 1996) with teachers of 5–8 and 10–13-year-old children with SLI and their typically developing peers. Teachers reported that children with SLI demonstrated higher levels of reticent behavior than did typical children, and boys with SLI demonstrated higher levels of solitary-active withdrawal than any of the other groups. In addition, children with SLI were rated below their peers on the impulse control/likeability and prosocial behavior subscales.

Researchers have also directly observed the social interactions of children with SLI. These data have mirrored those obtained from teacher report. Children with SLI may become isolated from their peers as early as preschool. For example, Rice, Sell, and Hadley (1991) found that unlike their typical matches, children with SLI in a preschool classroom preferred adults as conversational partners over peers. Hadley and Rice (1991) found that these same preschool children did not respond well to their peers' conversational bids and were, in turn, often ignored by their peers. Guralnick, Conner, Hammond, Gottman, and Kinnish (1996) observed 4- and 5-year-old children with language impairment in playgroups over a 2-week period. These researchers found that children with language problems were less well integrated into groups than were typically developing peers.

Patterns of isolation in group interactions appear to continue as children progress through the elementary school years. Fujiki, Brinton, Robinson, and Watson (1997) observed interactions of 8- to 12-year-old children with SLI as they talked together in a toy selection task. They found that when placed in a group with two typically developing peers, children with SLI became marginal participants, talking less, and being talked to less than their typical peers. In addition, Brinton, Fujiki, Spencer, and Robinson (1997) found that the inability to participate using spoken language did not fully account for the failure of these children to become part of group interactions. The children with SLI were not easily integrated into nonverbal aspects of group activity either. The children with SLI did not compensate for their difficulty in talking by contributing collaborative or cooperative action to the group activity.

The difficulty children with SLI experience in classroom and small group interactions also seems to extend to less structured contexts. Children with SLI are often isolated at recess, moving from playgroup to playgroup or spending a lot of time doing little or nothing. For example, Fujiki, Brinton, Isaacson, and Summers (2001) observed first- to fifth-grade children with language difficulties at recess. Typical children spent significantly more time in peer interaction, whereas children with language impairment spent significantly more time exhibiting withdrawn behaviors. In particular, several children with language impairment showed high amounts of reticence and solitary-active withdrawal.

The loneliness that many children with SLI experience (Fujiki et al., 1996) probably reflects the difficulty these children experience with many social tasks. For example, children with SLI have difficulty gaining access to ongoing play activities (Brinton et al., 1997; Craig & Washington, 1993). They seem to lack the assertiveness or the strategies to join in group activity. Once they gain access to an activity, they may not know how to respond to bids from their conversational partners such as questions or comments (Fujiki & Brinton,

1991; Hadley & Rice, 1991). Children with SLI may be at a loss when they need to reach mutual decisions, negotiate courses of action, or resolve conflicts with their peers (Brinton, Fujiki, & McKee, 1998; Grove, Conti-Ramsden, & Donlan, 1993; Stevens & Bliss, 1995). They may also have difficulty collaborating with their peers in cooperative work groups (Brinton, Fujiki, & Higbee, 1998; Brinton, Fujiki, Montague, & Hanton, 2000).

### *Peer relations*

The isolation children with SLI often experience at school and the difficulty they have with classroom social tasks could be expected to affect the way they are viewed by their peers. Few studies have investigated peer acceptance of children with SLI, but those that have suggest that children with SLI are not perceived as very desirable playmates by their peers as early as preschool (Gertner, Rice, & Hadley, 1994). Fujiki, Brinton, Hart, and Fitzgerald (1999) found considerable variability in acceptance of elementary school children with SLI. For example, one first grader with SLI was among the most popular children in her class and another was the least popular. For these elementary school children, a measure of reciprocal friendship was more telling than the measure of peer acceptance, however. Most of the children with SLI had no reciprocal friends in their classes. In fact, they were not named as a friend by anyone. It may have been the case that these children had reciprocal friends in other classes or in their neighborhoods who could soften the effects of having no friends in class. It is more likely, however, that their difficulty establishing and maintaining peer relationships extended beyond the schoolyard. This idea was supported by Fujiki et al. (1996), who found that children with SLI reported fewer peer contacts in play activities outside of school than did typically developing children.

### *Summary: Specific language impairment*

Because SLI is not identified until the age that children would be expected to begin to produce spoken language, it is difficult to speculate on the early social development of infants with SLI. It is likely that language plays a different role in the early social interactions of babies with SLI, but research has not described the nature of that role.

By the time they reach preschool, however, children with SLI are at risk for social difficulties. These problems have been documented in children through the elementary school years. Children with SLI tend to show patterns of isolation characterized by reticence and exclusion. They have difficulty establishing and maintaining friendships with peers. Difficulty forming friendships may be attributed, at least in part, to the struggles children with SLI experience with tasks that are important in the social world of the classroom. Difficulty entering ongoing interactions, responding to bids in conversation, negotiating differences, and collaborating on tasks may work against their integration into the social fabric of the classroom. Some special service delivery models may inadvertently contribute to the isolation of children with SLI. Placements into self-contained classes may distance children with SLI from most of their peers, and intermittent removal from class for language intervention may make children with SLI feel disoriented and removed from class activities.

## Conclusions

Children with profound hearing loss and children with SLI share a common challenge in social development. Their ability to communicate with others is seriously undermined by their difficulty acquiring spoken language. Frequently, children with hearing loss or SLI must learn to establish and maintain relationships when they cannot easily share their ideas, their thoughts, or their feelings with others. They must somehow make sense of events without understanding much of the language that shapes the interactions within those events. In addition, caretakers and parents frequently use language-based activities to expose children to their social community and to teach them how to behave within it. For example, consider the prominence of language in activities such as conversing at the dinner table, negotiating bedtime, settling a sibling dispute, or sharing a favorite book. Children who do not have full access to the language through which these activities are conducted may miss important information concerning how their parents view the world and what their parents expect of them. Similarly, children with weak language abilities are at a disadvantage in academic and social settings at school.

Because language ability is such an important factor in social competence, it is tempting to conclude that language deficits lead directly and predictably to social problems. The relationship between the language and social competence is strong, but it is neither simple nor direct. Language impairment does not guarantee social problems, nor does the degree of language impairment always predict the severity of social deficits. Language ability is one important factor in the development of social behavior, but the interaction of impaired language with other cognitive, social, and behavioral processes is complex and may vary from child to child.

The case studies of Steven and David illustrate how profound hearing loss and SLI are associated with somewhat different social challenges. Because of his profound hearing loss, Steven's strongest language modality is visual (signing). He has limited social interaction with his family members and peers who do not sign. He does have two reciprocal friends who also sign in his class, however, and a small group of children with whom he eats lunch and plays at recess. The fact that Steven has been able to interact with peers and make friends in contexts where he can communicate bodes well for his future social development. Although Steven may always be isolated from many people in the hearing world, he may also eventually affiliate with the deaf community where, depending on his signing fluency, he may enjoy unfettered communication (Maxwell et al., 1999). Within the context of this minority culture, Steven may function well socially.

For David, the outlook is different. Although intervention is helpful and essential, manifestations of David's language impairment are likely to persist into adulthood. Although there may be contexts in which his language impairment will not be a handicap, there will be no equivalent to the deaf community for David. Also, it is important to remember that David's social difficulties are evident even in situations that require little language. As a child, David's social difficulty is intertwined with, but cannot be entirely attributed to, his language impairment. The social problems that are associated with his language impairment may persist as he matures. In fact, a recent longitudinal study by Howlin, Mawhood, and Rutter (2000) paints a bleak picture of the social adjustment of some young men with SLI.

For children with profound hearing loss and SLI, educational programs have wisely targeted language development as a major objective. It has become clear, however, that increased educational emphasis on social functioning is warranted. We are looking for more effective, efficient ways to facilitate language and social skill simultaneously. It is time to help Steven bridge the gap between the hearing and deaf communities and to bring David in from the outskirts of social interaction.

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